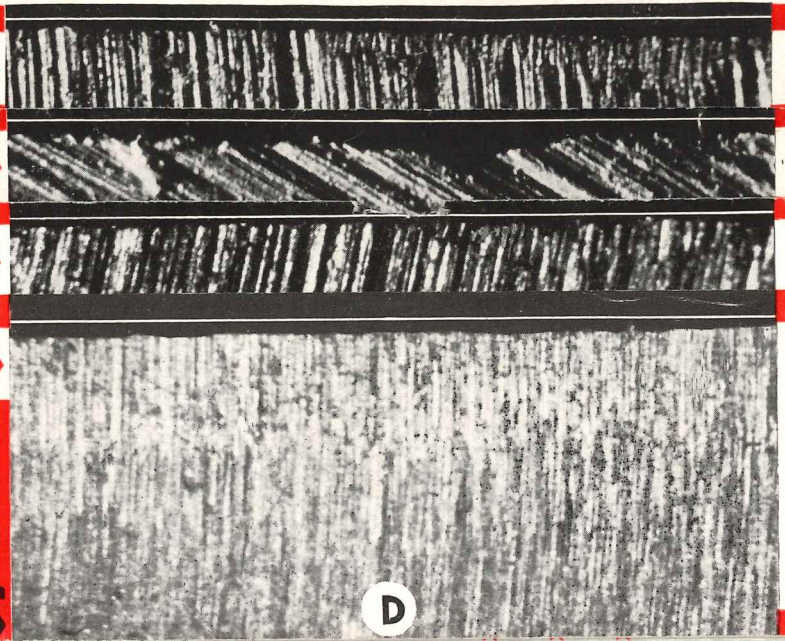
IT'S THE KEENEST DRILL EDGE THAT COUNTS!

NOT THIS

NOR THIS

NOR THIS

BUT THIS



HAND GROUND

MACHINE GROUND

MACHINE GROUND

Magnification
35 Times

ABRASIVEWAY

PATENT APPLIED FOR

★

KEENER CUTTING EDGES

★

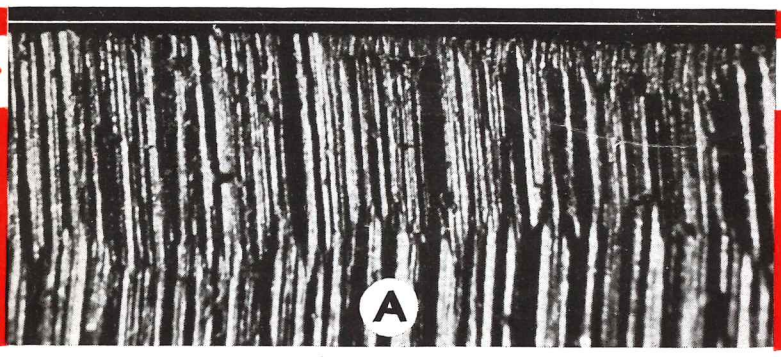
LONGER DRILL LIFE

IT'S THE KEENEST DRILL EDGE THAT COUNTS!

NOT THIS

Note: FLAT SPOT between break in grain pattern and drill edge

Magnification 35 Times



HAND GROUND

Vertical Pattern

45 / 450

DRILLS GROUND BY ORDINARY METHODS LACK KEENEST CUTTING EDGES

Microphotograph "A" shows a Hand Gound Drill. Note the flat spot along the drill lip marked by arrow. This is common to hand grinding and is evidenced by the change of "grind pattern". It weakens the drill edge and shortens the life of the drill.

Recent tests prove that a Hand Ground Drill averages 102 regrindings during its life, compared to 256 resharpenings in the case of a machine ground drill. A modern High Speed Drill gets very severe usage and hand grinding results in incorrectly drilled holes and adds to assembly costs and scrap losses.

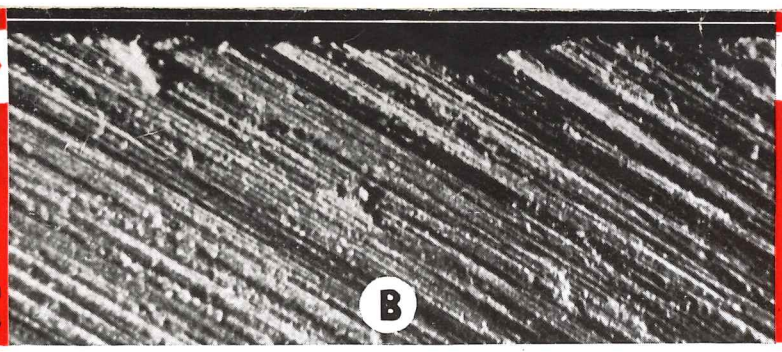
Microphotograph "B" shows a machine ground drill. Note the ragged drill lip and slanted "grind pattern". This is caused by careless grinding with a coarse-grained wheel. Drills ground this way do not have the keen edge so essential to long drill life and accurate drilling.

It is important that, from the lip edge of the drill around to the heel, such clearance as created by grinding should be a constant arc, starting at the extreme cutting edge. The ragged lip invites chipping, interferes with free cutting and reduces drill life, since burning naturally follows the use of a dull drill edge.

Microphotographs A, B, C and D have not been retouched. All photographs show results of sharpening drills with only one complete grinding cycle. No multiple contacts were permitted to obtain a better appearing edge.

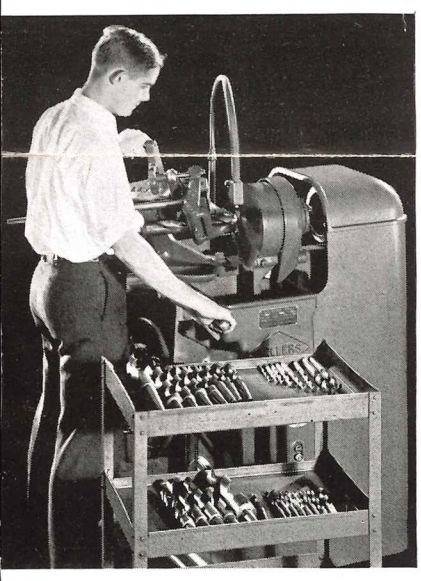
NOR THIS

Magnification 35 Times



MACHINE GROUND

Angular Pattern



SELLERS 6-G DRILL GRINDER

This illustration and drawings, Figs. 1, 2, 3, 4, 5, 6, 7 and 8, furnished through the courtesy of William Sellers & Company, Inc., Philadelphia, Pa.

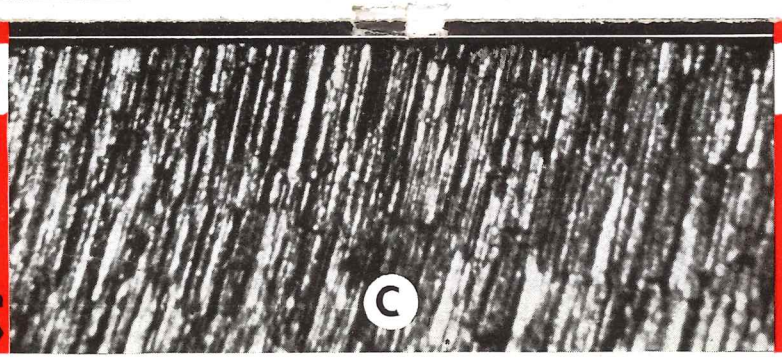
Microphotograph "C" shows a good example of a machine ground drill edge produced by wet grinding using the usual 46 grain drill wheels.

While this edge will produce satisfactory results in drill performance, operating economy and efficiency, the rule of "The sharper the better" is the best way to obtain **increased** drill life and **improved** production.

Therefore, we recommend the keener cutting edge that can be obtained when the drill is sharpened with the 100 grain ABRASIVEWAY Wheel as described on the reverse side of this folder.

NOR THIS

Magnification 35 Times



MACHINE GROUND

Vertical Pattern

USE THIS ORDER BLANK AND BRING YOUR DRILL GRINDING UP-TO-DATE

ABRASIVE COMPANY, Tacony & Fraley Sts.,
Philadelphia 37, Pa. Date.....

Gentlemen: Please consider this our order.

Company.....

Address.....

City and State.....

Signature.....

QUANTITY

..... ABRASIVEWAY DRILL SHARPENING WHEELS TYPE M (Individually packed).

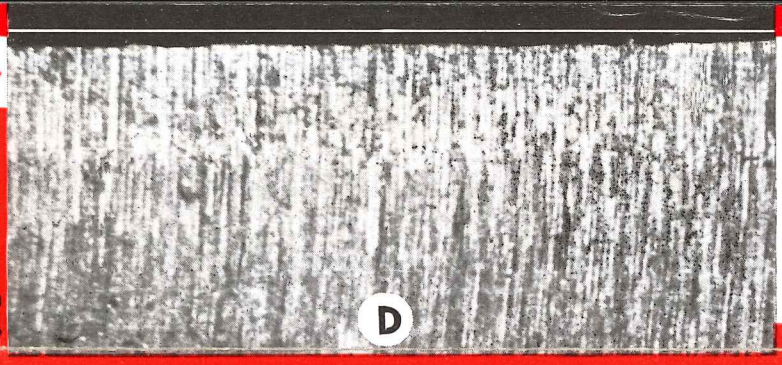
List Price $15.55 Each (Subject to Discount.)

..... SETS OF INSTALLATION EQUIPMENT.
(One coolant extension pipe and fitting with four special Sellers mounting screws and complete installing instructions).

$1.00 Net Per Set.

(Please apply your usual MRO Preference Rating)

BUT THIS ▸



Magnification
35 Times ▸

ABRASIVEWAY

PATENT APPLIED FOR

★

KEENER CUTTING EDGES

★

LONGER DRILL LIFE

Microphotograph "D" shows an ABRASIVEWAY-sharpened drill. Notice the straight, smooth drill lip and uniform "grind pattern". The "saw tooth" edge common to the usual coarse grain wheel (see Microphotographs "A", "B" and "C") is completely eliminated, giving the drill a keener, longer-lasting cutting edge. This is made possible by using a 100 grain ABRASIVEWAY wheel on a Sellers Drill Grinder which has been adapted for the ABRASIVEWAY system of coolant-application.

COMPARISON

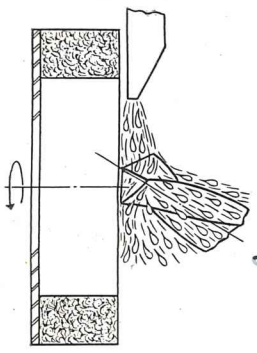


Fig. 1

OLD WAY (Fig. 1)

Coolant is scraped from grinding wheel during sharpening process. Therefore, hard, fine grain wheels, essential for obtaining keenest edges, cannot be used.

NEW ABRASIVEWAY (Fig. 2)

Coolant constantly penetrates wheel structure, thus providing extra coolant at point of grinding contact. This permits the use of finer grain wheels that grind keener, longer-lasting edges.

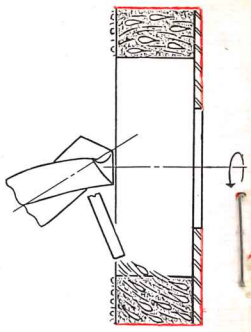


Fig. 2

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ABRASIVEWAY DIRECTS COOLANT THROUGH WHEEL STRUCTURE

With ABRASIVEWAY the grinding coolant is directed through an extension pipe to the inside diameter of the wheel. (See Fig. 4 and Fig. 5.)

The coolant enters the wheel and is distributed throughout the wheel's porous structure, by the action of centrifugal force. The ABRASIVEWAY wheel is especially constructed for this purpose and the waterproof coating on the outside diameter prevents the coolant from escaping radially. Therefore, after the wheel structure becomes fully saturated, the coolant is forced out on the wheel face, there being no other possible direction for it to travel. (See Fig. 5.)

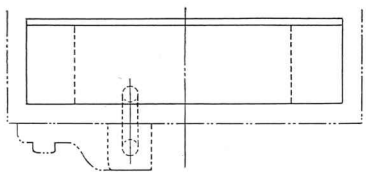

Fig. 3

This coolant-action is continuous during the sharpening operation, keeping the wheel face clean and sharp at all times. This permits the use of a finer, harder wheel which, in turn, means drills of superior sharpness and longer service.

This revolutionary method of applying the coolant delivers it from **within** the wheel **through** the wheel face to the point of grinding action as shown in Fig. 2. Thus, its cooling effect, abundantly present **between** the drill edge and the grinding surface, provides the most efficient sharpening results possible.

Old-fashioned methods of applying the coolant only on the **outside** of the drill body did not permit the coolant to reach the critical underside of the drill lip during the grinding operation. (See Fig. 1.) As a result, it has been necessary to use a soft, coarse wheel to avoid burning—and with a soft, coarse wheel the desired keen cutting edge could not be obtained.

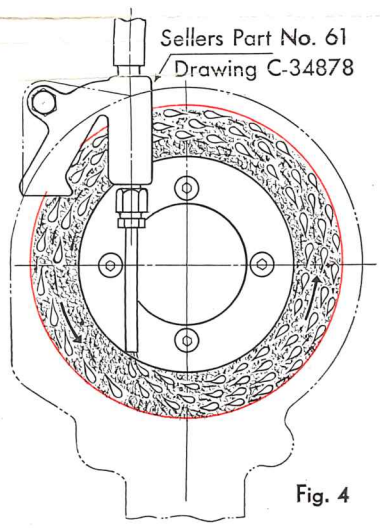

Fig. 4

★ ★ ★

ABRASIVEWAY is the most modern method of sharpening formed drill points scientifically. Its results include: (1) Keener Drill Edges, (2) Longer Drill Life and (3) Lower Drill Maintenance Cost! Why not bring **your** drill grinding up-to-date by changing to ABRASIVEWAY without delay?

Adapting your Sellers Drill Grinder for ABRASIVEWAY is easily done and is but a matter of minutes. (See Fig. 6 and Fig. 7.) Complete instructions and equipment for making this minor change are included in the ABRASIVEWAY Sellers Drill Grinding Kit. You will find an order blank on the reverse side for your convenience. Fill it out now and discover for yourself what superior drill grinding can really be!

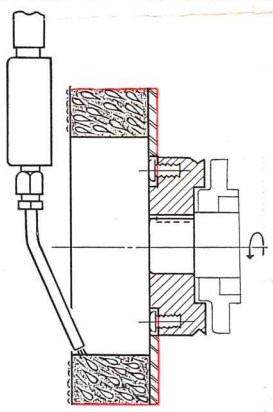

Fig. 5

★ ★ ★

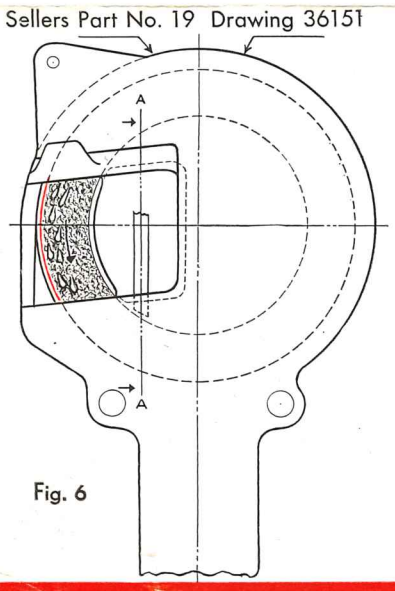

Fig. 6

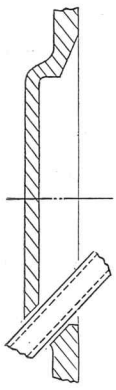

Fig. 7

To adapt Sellers Drill Grinder for ABRASIVEWAY. (Fig. 6 and Fig. 7.) Coolant hose and water nozzle are removed and location of hole correctly determined. Hole for insertion of extension pipe is properly drilled. After extension pipe is installed, coupling nut is tightened and guard is then adjusted to proper position for ABRASIVEWAY wheel.

Complete assembly of ABRASIVEWAY adaptation is shown in Fig. 8. After circulating through the wheel structure, the coolant is discharged into the wheel-guard funnel and returns to the coolant tank for recirculation.

Note: Complete and detailed instructions, including dimensions and diagram, are included in each ABRASIVEWAY Sellers Drill Grinding Kit.

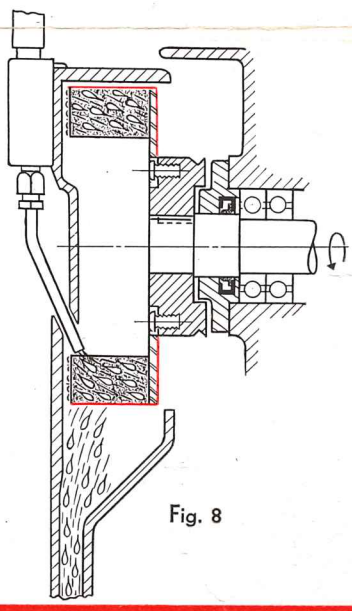

Fig. 8

See Reverse Side for ABRASIVEWAY ORDER BLANK

Form
BSA 78
10M 1-48

ABRASIVE COMPANY
DIVISION OF SIMONDS SAW & STEEL CO.
Tacony & Fraley Sts., Philadelphia 37, Pa.

ABRASIVEWAY WHEEL
Patent Applied for